

Figure 1

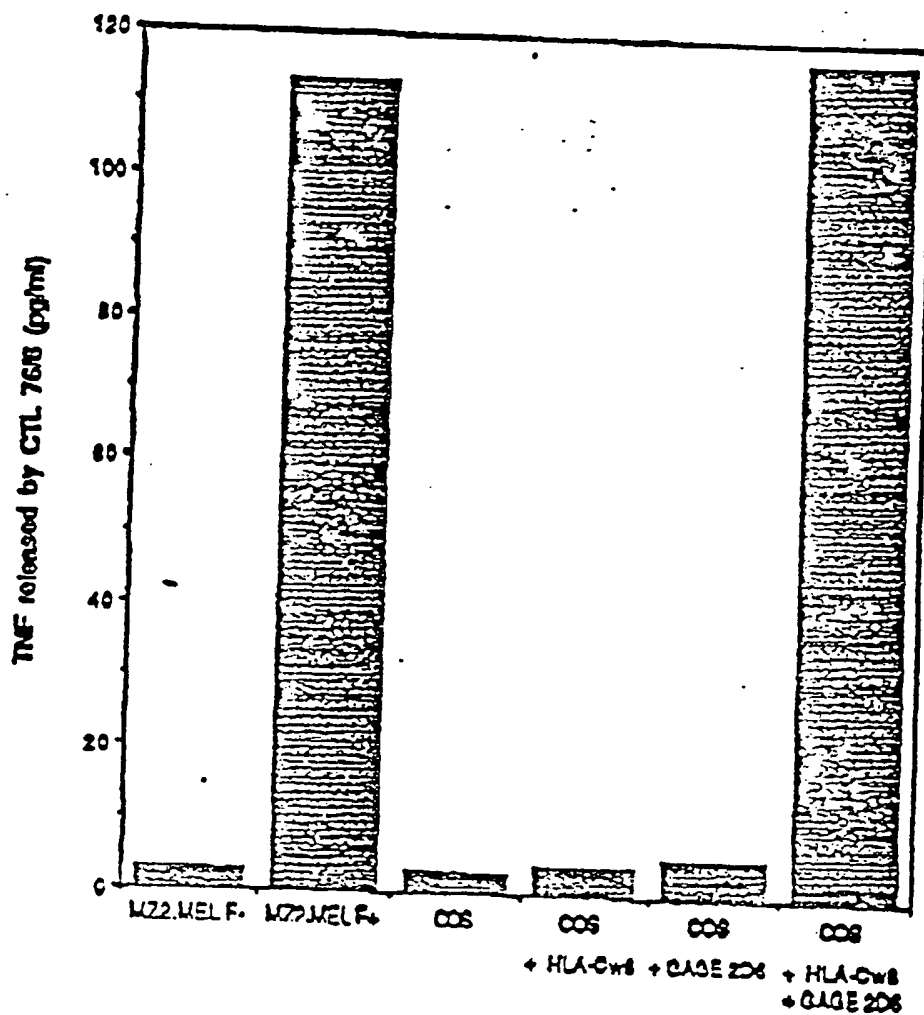


Figure 2

YRPRPRRY ●  
 TYRPRPRRY \*  
 YRPRPRRYV ◇  
 TYRPRPRRYV ○  
 RPRPRRYVE ▽  
 MSWRGRSTYRPRPRR ◆

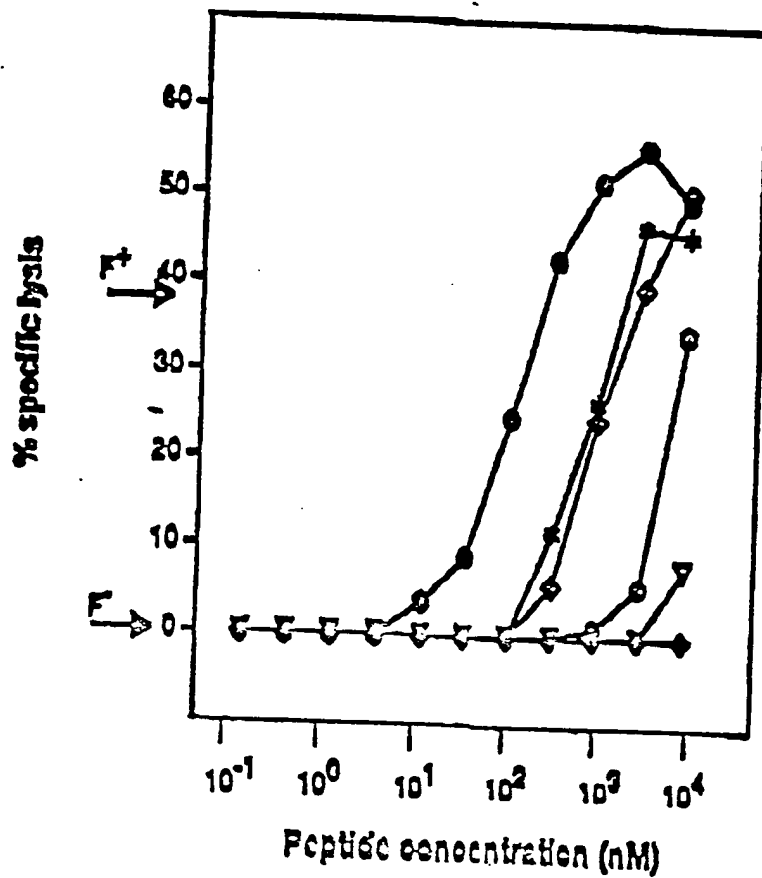


Figure 3

GAGE-1 .....ACGCCA333AG CTGCGAGGCACTGCTGTGTGTG CG TCCGAGCTCTTTCCTCT ACTCAGATTCA  
 GAGE-2 .....GATGAGTTGCGGAGG AAGATCGACCTATTATTTGCTT AAT TCCGAGCTCTTTCCTCT ACTCAGATTCA  
 GAGE-3 .....CGCCAGGGAG CTGTGAGGCACTGCTGTGTGTGCTGCGG TCCGAGCTCTTTCCTCT ACTCAGATTCA  
 GAGE-4 .....AG CTGTGAGGCACTGCTGTGTGTGCTGCGG TCCGAGCTCTTTCCTCT ACTCAGATTCA  
 GAGE-5 .....GCCAGGGAG CTGTGAGGCACTGCTGTGTGTGCTGCGG TCCGAGCTCTTTCCTCT ACTCAGATTCA  
 GAGE-6 .....GCCAGGGAG CTGTGAGGCACTGCTGTGTGTGCTGCGG TCCGAGCTCTTTCCTCT ACTCAGATTCA

VDE 44

GAGE-1 TGTGTGTGAAAATGAGTTGCTGAGGAA TCGAGG...GATGCGCTAGAGCAAGTGGC TACTTAAGGCTCTGAA TGAATTGGGCGCT  
 GAGE-2 TGTGTGTGAAAATGAGTTGCTGAGGAA TCGAGG...TATGCGCTAGAGCAAGTGGC TACTTAAGGCTCTGAA TGAATTGGGCGCT  
 GAGE-3 TGTGTGTGAAAATGAGTTGCTGAGGAA TCGAGG...TATGCGCTAGAGCAAGTGGC TACTTAAGGCTCTGAA TGAATTGGGCGCT  
 GAGE-4 TGTGTGTGAAAATGAGTTGCTGAGGAA TCGAGG...TATGCGCTAGAGCAAGTGGC TACTTAAGGCTCTGAA TGAATTGGGCGCT  
 GAGE-5 TGTGTGTGAAAATGAGTTGCTGAGGAA TCGAGG...TATGCGCTAGAGCAAGTGGC TACTTAAGGCTCTGAA TGAATTGGGCGCT  
 GAGE-6 TGTGTGTGAAAATGAGTTGCTGAGGAA TCGAGG...TATGCGCTAGAGCAAGTGGC TACTTAAGGCTCTGAA TGAATTGGGCGCT

VDE 43

GAGE-1 ATGCGCGCGGAGCACTTCACTGATGAACTG GAAACAGCAACAGCTGAAAGAGGGAACCA GCAACTCAAGCTGAGGATCTGCAAGCTGCT  
 GAGE-2 ATGCGCGCGGAGCACTTCACTGATGAACTG GAAACAGCAACAGCTGAAAGAGGGAACCA GCAACTCAAGCTGAGGATCTGCAAGCTGCT  
 GAGE-3 ATGCGCGCGGAGCACTTCACTGATGAACTG GAAACAGCAACAGCTGAAAGAGGGAACCA GCAACTCAAGCTGAGGATCTGCAAGCTGCT  
 GAGE-4 ATGCGCGCGGAGCACTTCACTGATGAACTG GAAACAGCAACAGCTGAAAGAGGGAACCA GCAACTCAAGCTGAGGATCTGCAAGCTGCT  
 GAGE-5 ATGCGCGCGGAGCACTTCACTGATGAACTG GAAACAGCAACAGCTGAAAGAGGGAACCA GCAACTCAAGCTGAGGATCTGCAAGCTGCT  
 GAGE-6 ATGCGCGCGGAGCACTTCACTGATGAACTG GAAACAGCAACAGCTGAAAGAGGGAACCA GCAACTCAAGCTGAGGATCTGCAAGCTGCT

GAGE-1 CAGGAGGGAGAGGATGAGGGAGCATCTGCA GGTCAAGGGGCGAAGGCTGAAAGCT TAGE CAGGAGAGGGTGAACCCACAGACTGGGTGT  
 GAGE-2 CAGGAGGGAGAGGATGAGGGAGCATCTGCA GGTCAAGGGGCGAAGGCTGAAAGCT TAGE CAGGAGAGGGTGAACCCACAGACTGGGTGT  
 GAGE-3 CAGGAGGGAGAGGATGAGGGAGCATCTGCA GGTCAAGGGGCGAAGGCTGAAAGCT TAGE CAGGAGAGGGTGAACCCACAGACTGGGTGT  
 GAGE-4 CAGGAGGGAGAGGATGAGGGAGCATCTGCA GGTCAAGGGGCGAAGGCTGAAAGCT TAGE CAGGAGAGGGTGAACCCACAGACTGGGTGT  
 GAGE-5 CAGGAGGGAGAGGATGAGGGAGCATCTGCA GGTCAAGGGGCGAAGGCTGAAAGCT TAGE CAGGAGAGGGTGAACCCACAGACTGGGTGT  
 GAGE-6 CAGGAGGGAGAGGATGAGGGAGCATCTGCA GGTCAAGGGGCGAAGGCTGAAAGCT TAGE CAGGAGAGGGTGAACCCACAGACTGGGTGT

VDE 24

GAGE-1 GAGTGTGAAAGATGCTGCTGATGGGAGGAG ATGAGAGCGCGCAATCCAGAGGAGGAGGAA ACCGCTGAAAGAG AGATGAGGTTCTCACTAT  
 GAGE-2 GAGTGTGAAAGATGCTGCTGATGGGAGGAG ATGAGAGCGCGCAATCCAGAGGAGGAGGAA ACCGCTGAAAGAG .....  
 GAGE-3 GAGTGTGAAAGATGCTGCTGATGGGAGGAG ATGAGAGCGCGCAATCCAGAGGAGGAGGAA ACCGCTGAAAGAG .....  
 GAGE-4 GAGTGTGAAAGATGCTGCTGATGGGAGGAG ATGAGAGCGCGCAATCCAGAGGAGGAGGAA ACCGCTGAAAGAG .....  
 GAGE-5 GAGTGTGAAAGATGCTGCTGATGGGAGGAG ATGAGAGCGCGCAATCCAGAGGAGGAGGAA ACCGCTGAAAGAG .....  
 GAGE-6 GAGTGTGAAAGATGCTGCTGATGGGAGGAG ATGAGAGCGCGCAATCCAGAGGAGGAGGAA ACCGCTGAAAGAG .....

GAGE-1 GTTGCCCAAGCTGGGATCTCTTGGCTTTA ATGAAAGATTGCTTCTTAAATCTTTCCCA CCGAAACCCTGAGCTGAAATATCAAAAT  
 GAGE-2 .....  
 GAGE-3 .....  
 GAGE-4 .....  
 GAGE-5 .....  
 GAGE-6 .....

GAGE-1 GCGGAGAGAGCGGTTTATGTTCTATCATCTG TGCATGTAAGGCGCAATCAGCTGTAAA AGAAGTAAGTGAATGTCAGGCTGCT  
 GAGE-2 ..... TGCATGTAAGGCGCAATCAGCTGTAAA AGAAGTAAGTGAATGTCAGGCTGCT  
 GAGE-3 ..... TGCATGTAAGGCGCAATCAGCTGTAAA AGAAGTAAGTGAATGTCAGGCTGCT  
 GAGE-4 ..... TGCATGTAAGGCGCAATCAGCTGTAAA AGAAGTAAGTGAATGTCAGGCTGCT  
 GAGE-5 ..... TGCATGTAAGGCGCAATCAGCTGTAAA AGAAGTAAGTGAATGTCAGGCTGCT  
 GAGE-6 ..... TGCATGTAAGGCGCAATCAGCTGTAAA AGAAGTAAGTGAATGTCAGGCTGCT

GAGE-1 CCTATGTTGGAAAATTTCTCATTAATTC TCCCAATAAAGCTTTACAGGCTTCTGCAAA GAAAAAAAAAAAAA  
 GAGE-2 CCTATGTTGGAAAATTTCTCATTAATTC TCCCAATAAAGCTTTACAGGCTTCTGCAAA GAAAAAAAAAAAAA  
 GAGE-3 CCTATGTTGGAAAATTTCTCATTAATTC TCCCAATAAAGCTTTACAGGCTTCTGCAAA GAAAAAAAAAAAAA  
 GAGE-4 CCTATGTTGGAAAATTTCTCATTAATTC TCCCAATAAAGCTTTACAGGCTTCTGCAAA GAAAAAAAAAAAAA  
 GAGE-5 CCTATGTTGGAAAATTTCTCATTAATTC TCCCAATAAAGCTTTACAGGCTTCTGCAAA GAAAAAAAAAAAAA  
 GAGE-6 CCTATGTTGGAAAATTTCTCATTAATTC TCCCAATAAAGCTTTACAGGCTTCTGCAAA GAAAAAAAAAAAAA

Figure 4

antigenic  
peptide

GAGE	Peptide 1	Peptide 2	Peptide 3	Peptide 4	Peptide 5	Peptide 6	Peptide 7
GAGE-1	DS-WRGRST	PPRPRRYV	PPPEV	GFMRPEQFSDEVLPATPEDEGEFATQ	RQDFAAAQEGEDGASAGQGPKPEA		7.
GAGE-2	DS-WRGRST	PPRPRRYV	PPPEV	GFMRPEQFSDEVLPATPEDEGEFATQ	RQDFAAAQEGEDGASAGQGPKPEA		7.
GAGE-3	DS-WRGRST	PPRPRRYV	PPPEV	GFMRPEQFSDEVLPATPEDEGEFATQ	RQDFAAAQEGEDGASAGQGPKPEA		7.
GAGE-4	DS-WRGRST	PPRPRRYV	PPPEV	GFMRPEQFSDEVLPATPEDEGEFATQ	RQDFAAAQEGEDGASAGQGPKPEA		7.
GAGE-5	DS-WRGRST	PPRPRRYV	PPPEV	GFMRPEQFSDEVLPATPEDEGEFATQ	RQDFAAAQEGEDGASAGQGPKPEA		7.
GAGE-6	DS-WRGRST	PPRPRRYV	PPPEV	GFMRPEQFSDEVLPATPEDEGEFATQ	RQDFAAAQEGEDGASAGQGPKPEA		7.

GAGE	Peptide 1	Peptide 2	Peptide 3	Peptide 4	Peptide 5	Peptide 6	Peptide 7
GAGE-1	DSQEQGHFQTGCCEEDGPDGQV	PP	PNPEIVKTPPEDEGEKQSQ	LLGNCFLKLEPRKP			13
GAGE-2	DSQEQGHFQTGCCEEDGPDGQV	PP	PNPEIVKTPPEDEGEKQSQ				11
GAGE-3	DSQEQGHFQTGCCEEDGPDGQV	PP	PNPEIVKTPPEDEGEKQSQ				11
GAGE-4	DSQEQGHFQTGCCEEDGPDGQV	PP	PNPEIVKTPPEDEGEKQSQ				11
GAGE-5	DSQEQGHFQTGCCEEDGPDGQV	PP	PNPEIVKTPPEDEGEKQSQ				11
GAGE-6	DSQEQGHFQTGCCEEDGPDGQV	PP	PNPEIVKTPPEDEGEKQSQ				11

Figure 5

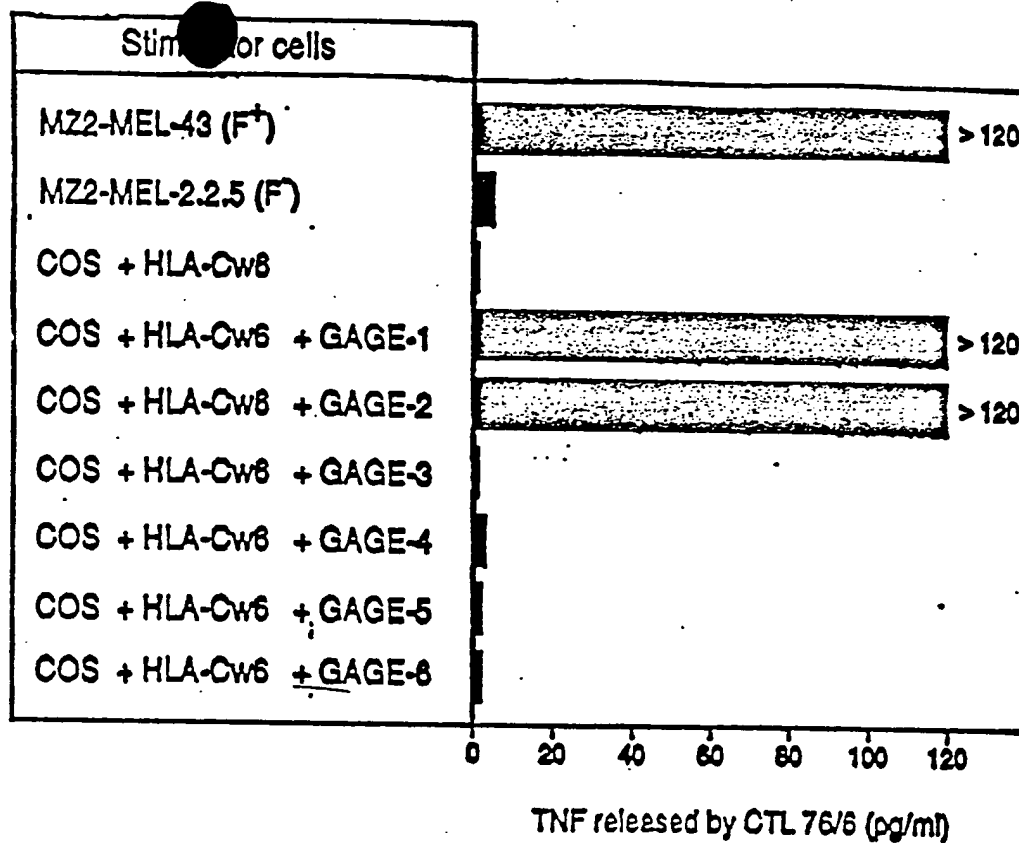


FIGURE 6

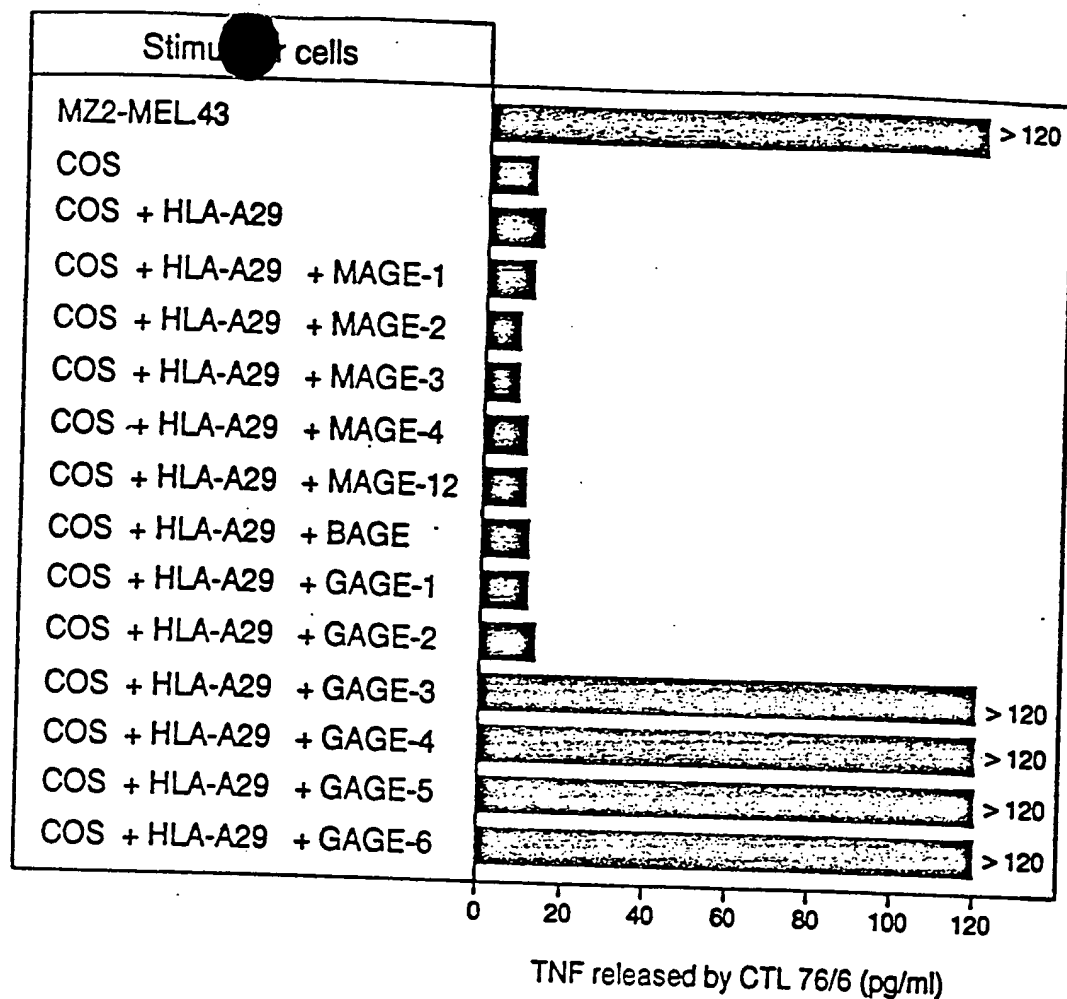


Figure 7. Stimulation of MZ2-CTL 22/23 by COS-7 cells transiently transfected with an HLA-A29 cDNA and MAGE, BAGE or GAGE cDNA. The CTL was added after 24 hours and the production of TNF was estimated 24 hours later. MZ2-MEL43 was used as a positive control stimulator cell.

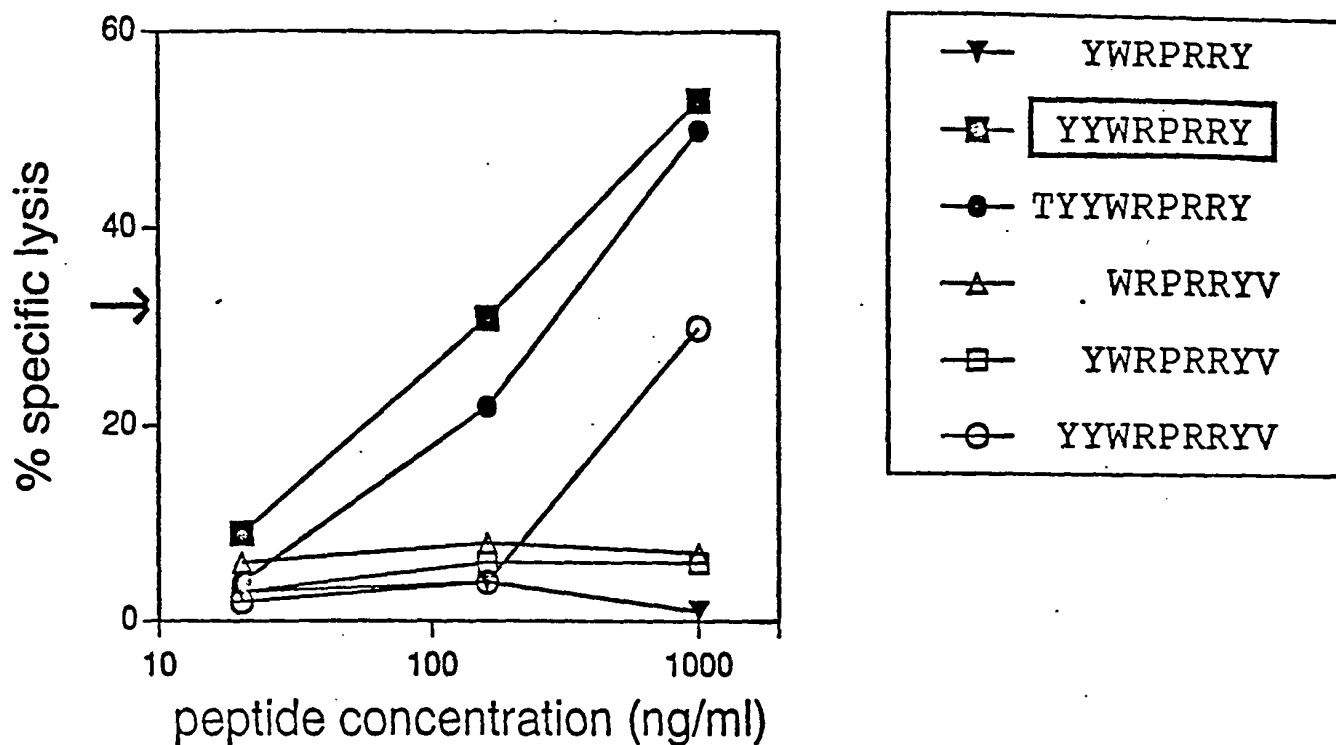


Figure 6 Lysis by MZ2-CTL 22/23 of lymphoblastoid cell line LB17-EBV incubated with GAGE-encoded peptide YYWRPRRY. Thousand  $^{51}\text{Cr}$ -labelled LB17-EBV target cells were incubated in 96 well microplates in the presence of various concentrations of peptide for 15 minutes at  $37^\circ\text{C}$ . An equal volume containing 6000 CTL was then added. Chromium release was measured after 4 hours at  $37^\circ\text{C}$ . We have indicated the final concentration of peptides during the incubation of the target cells with the CTL. The arrow indicates the percentage of lysis of MZ2-MEL.43 cells.